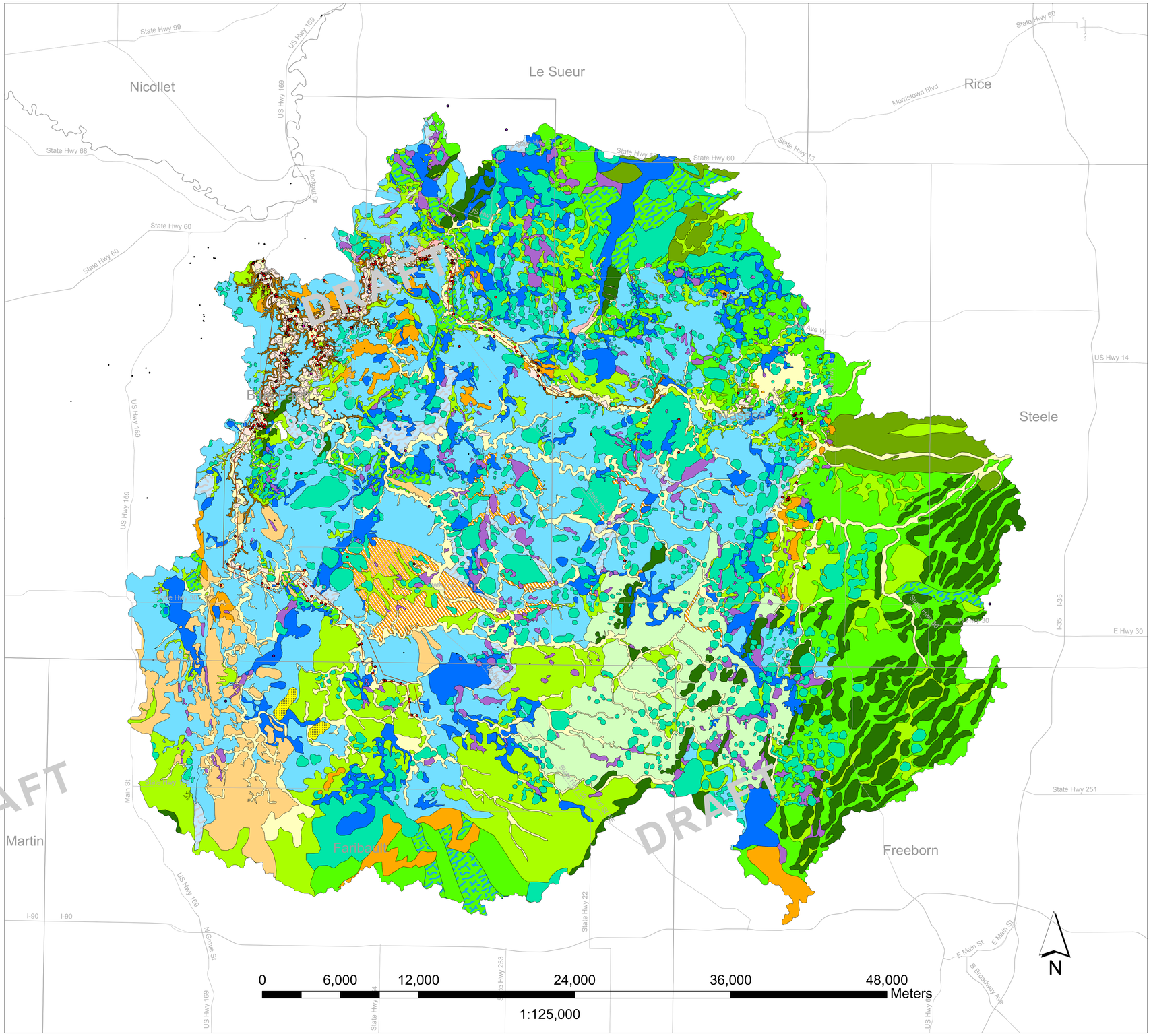
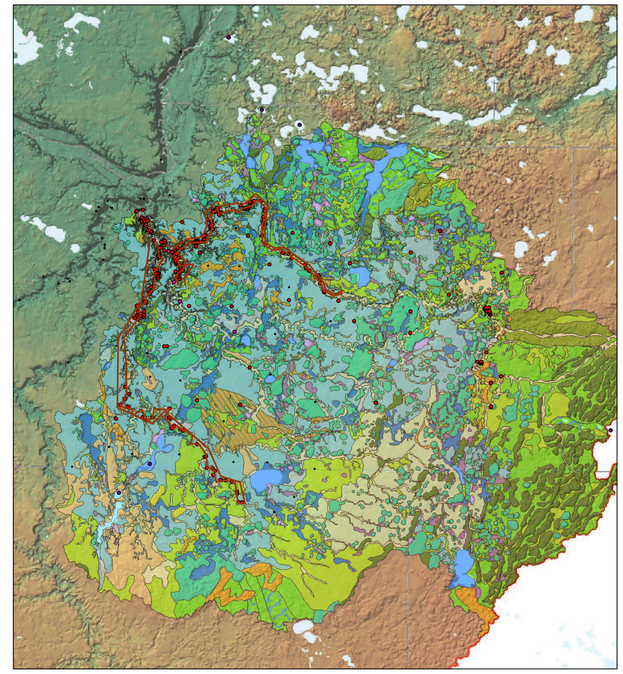
Minnesota Geological Survey
Open-File Report OFR10-03

Digital Reconnaissance Surficial Geology and Geomorphology of the LeSueur River Watershed (Blue Earth, Waseca, Faribault and Freeborn counties in South Central Minnesota)

June 10, 2010; DRAFT MAP

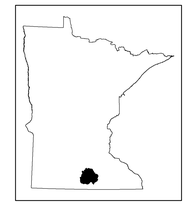
Carrie E. Jennings





Explanation

- Trunk_highways
- Counties
- rivsec
- Reference Lake Coords
- Field points
- LiDAR_locations
- Field points, other projects
- Field points, other projects
- Blue Earth Giddings Points



Surficial Geology units

Unit

- Ha alluvium
- Hb bar
- Hc colluvium
- Hl lacustrine
- Hp peat
- Ht terrace
- Qb bar and beach
- Qcss collapsed stream sediment
- Qcssb as above, buried
- Ql lacustrine
- Qlc as above, collapsed
- Qliw lacustrine, ice walled
- Qlw lacustrine, washed
- Qs stream sediment
- Qt till
- Qtc till, collapsed
- Qth till,hummocky
- Qtm till, moraine
- Qtsz till, shear zone
- Qtw till, washed

SCHEMATIC CROSS SECTIONS ALONG SELECT REACHES OF THE MAPLE, COBB AND LE SUEUR RIVERS
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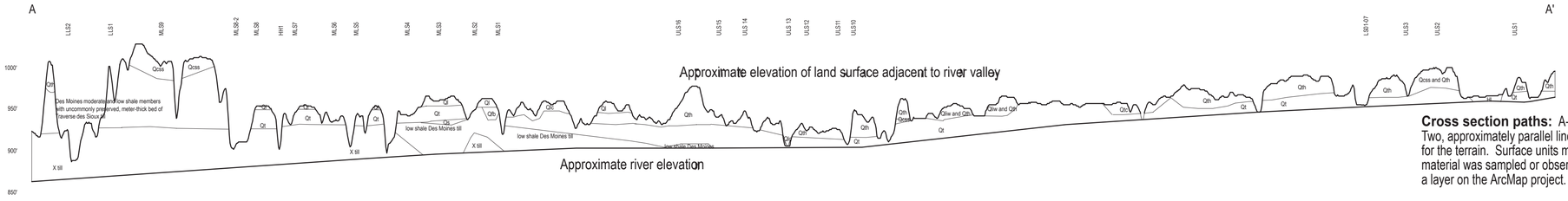
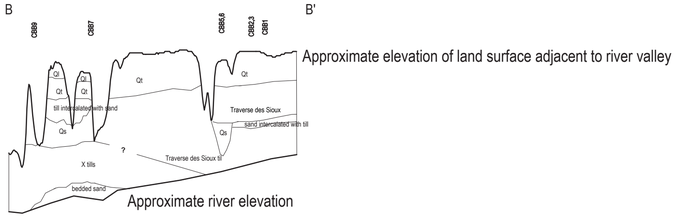
Le Sueur River Section



Cobb River Section



Note: Most Holocene units are too thin to show at this scale.

Key to units not on Surficial map

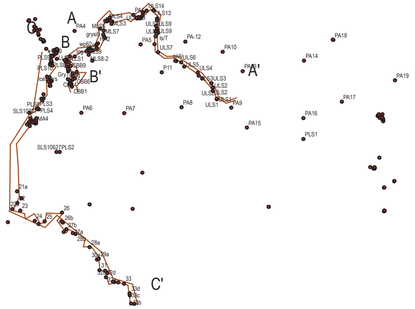
Moderate to low shale Des Moines till: Yellow brown (oxidized) to gray (unoxidixed) loam till, similar to Qt on surficial map but lower shale content
Avg. sand-silt-clay% = 52-34-14; Avg. crystalline-carbonate-shale% = 55-32-13

Traverse des Sioux till: Gray, indurated, sandier than Des Moines lobe tills, no shale
Avg sand-silt-clay %= 50-36-15; Avg crystalline-carbonate-shale = 72-28-0

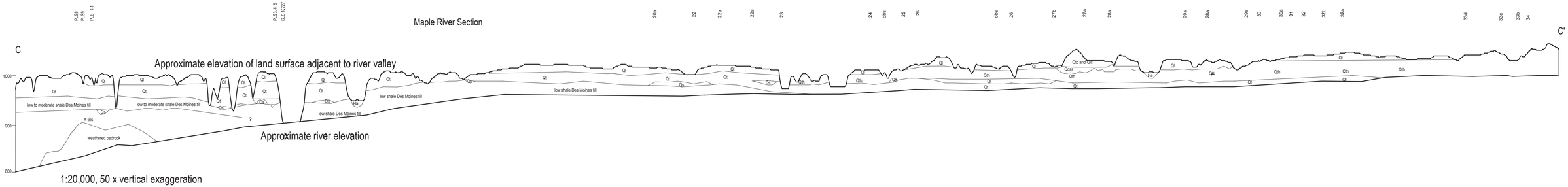
X tills: Massive, silty, blocky gray till, indurated and jointed till, commonly with wood, shale poor. May include Gervais and Rose Creek tills.
Avg sand-silt-clay 34-43-23, Avg. crystalline-carbonate-shale 55-41-3

Weathered bedrock: sandy dolostone, white sandstone and clayey saprolite

Cross section paths: A-A' follows the Le Sueur River; B-B' the Cobb River and C-C' the Maple River Two, approximately parallel lines follow the channel and define the bottom of the section, and the adjacent upland for the terrain. Surface units may be projected in to represent the dominant unit in the area. Points indicate where material was sampled or observed. For more information on cross section creation, refer to text. Cross sections are a layer on the ArcMap project.



Maple River Section



1:20,000, 50 x vertical exaggeration